

MAINE PUBLIC HEALTH ALERT NETWORK SYSTEM



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*****ADVISORY – Important Information*****

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TO: All HAN Recipients

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SUBJECT: Invasive Haemophilus Influenzae, type b in an under-vaccinated 3 year old

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Invasive *Haemophilus Influenzae*, Type b (Hib)

The Maine Department of Health and Human Services' Maine Center for Disease Control and Prevention, (Maine CDC) is issuing an advisory regarding meningitis and bacteremia from *Haemophilus influenzae* type b (Hib) in a 3 year old under-vaccinated child. In late February 2009, a 3 year old child from midcoast Maine developed Hib bacteremia and meningitis. The child received the 2 and 4 month immunizations, though did not complete the Hib vaccine series with the 6 month and 12-15 month vaccines. The child was hospitalized in intensive care, and is currently recovering. The child's household members, including an unvaccinated infant, have been given prophylaxis with Rifampin antibiotic to prevent additional cases of invasive Hib.

Background:

Haemophilus influenzae is a natural and common bacterium of the upper respiratory tract. Six serotypes of *Haemophilus influenzae* exist, and serotype b (Hib) is the least commonly isolated, though the most likely to cause invasive illness. *Haemophilus influenzae* can be transmitted from person to person by respiratory secretions through such contact as coughing and sneezing.

Invasive Hib is very serious disease, though it has been extremely rare since routine use of Hib vaccine in young children began about 20 years ago. Before widespread use of the vaccine, Hib was the most common cause of bacterial meningitis in children in the U.S., and also commonly caused otitis media, cellulitis, pneumonia, septic arthritis, epiglottitis, and bacteremia. Before the 1990s, invasive Hib disease struck one child out of every 200 under 5 years of age in the U.S. About 1 in 4 of these children suffered permanent brain damage, and about 1 in 20 died. Maine does not have a reported case of invasive Hib disease in a child under 5 year of age in over 10 years. Hib vaccine is 95 – 100% effective in preventing invasive Hib infection.

Hib bacteria normally circulates in the community, and under-vaccination jeopardizes the cushion of protection high immunization coverage provides. In 2008 Minnesota reported 5 unrelated children under 5 years of age in different areas of the state with invasive Hib disease, including one who died. This increase was attributed to higher Hib carriage rates due to diminished herd immunity caused by under-vaccination. The parents of most of the children had refused or deferred vaccinations, one was an infant too young to have completed the primary vaccine series, and none were under-vaccinated because of the recent Hib vaccine shortage. (<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5803a4.htm>).

The entire country has been experiencing a Hib vaccine shortage since December, 2007. This shortage is expected to last into mid-2009. However, there are adequate vaccine supplies to provide protective Hib primary series vaccination for all the children who need them. The Maine CDC's Immunization Program is available to assist provider offices with securing adequate supplies of vaccine to provide pediatric patients the Hib primary doses of vaccine.

Very importantly, this serious incident reiterates the importance of urging parents to have their children immunized on schedule for all childhood vaccine-preventable diseases.

Hib Immunizations:

There are two types of Hib vaccine approved for use in the US, PedvaxHib® (including Comvax) and ActHib® (including TriHiBit and Pentacel). Recommended schedule for the use of these vaccines are:

- ActHib®: Three primary doses are administered when a child is at 2, 4, and 6 months old, and a booster dose at 12-15 months old.

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- PedvaxHib®: Two primary doses are administered when a child is at 2, and 4 months old, and a booster dose at 12-15 months old.
- In December 2007, Pedvax Hib ® was pulled off the market by the manufacturer. The normal schedule was modified for this Hib vaccine shortage period. The interim recommendations are:
 - Defer administering the booster dose, except for specified high-risk groups who should continue to receive the booster at 12-15 months old.
 - High-risk groups include children with asplenia, sickle cell disease, human immune deficiency syndromes, and malignant neoplasms.
 - American Indian and Alaska Native children should also continue to receive the full routinely recommended schedule including the booster dose at 12-15 months old.

Recommendations for Health Care Providers:

- Promote Hib vaccination:
 - For all children ages 2 months to 5 years; and
 - For all others who are high-risk.
- Review vaccine records for all patients and provide vaccines to assure immunizations are updated.
- Contact the Maine CDC's Immunization Program for information on vaccine supplies at 1-800-867-4775.
- Recognize signs and symptoms of Hib disease.
- Submit all isolates from invasive cases of *Haemophilus influenzae* to the Maine CDC's Health and Environmental Testing Laboratory (HETL) for serotyping and other tests:
<http://www.maine.gov/dhhs/etl/homepage.htm>.
- Report suspect or confirmed invasive *Haemophilus influenza* illness to the Maine CDC's 24-hour emergency consultation and disease reporting line at 1-800-821-5821 or fax at 1-800-293-7534 or email disease.reporting@maine.gov

Recommendations for All Others:

- Promote the importance of vaccinations, and the fact that with dwindling immunization rates herd immunity cannot be relied on to protect those who are under or un-immunized.

For More Information:

- Health Care Providers:
 - Hib vaccine information: <http://www.cdc.gov/vaccines/vpd-vac/hib/default.htm> or call the Maine Immunization Program at 1-800-867-4775
 - Hib vaccine shortage-related schedule adjustments:
<http://www.cdc.gov/vaccines/vpd-vac/hib/downloads/which-child-hv-508.doc>
 - Catch-up immunization scheduler for children 6 and under:
<http://www.cdc.gov/vaccines/recs/scheduler/catchup.htm>
- Parents and All Others:
 - Hib vaccine and disease information
<http://www.cdc.gov/vaccines/vpd-vac/hib/default.htm>